REMARKS

A non-final Office Action mailed August 24, 2004 has been received and carefully reviewed. Claims 1-57 are pending in the application.

Applicant acknowledges the allowable subject matter of claims 1-20 and 40-57 as originally presented.

The abstract has been amended in the manner suggested by the Examiner, thereby obviating the objection to the abstract.

Claims 21-23 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 31 of U.S. Patent No. 6,408,952 (the '952 patent). Claims 24-39 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant respectfully disagrees with the Examiner's assertion that claim 31 of the '952 patent and claims 21-23 are not patentably distinct. Claim 31 of the '952 patent depends from claim 30 which, in turn, depends from claim 17, which are presented below:

17. A system for remotely altering operation of a horizontal directional drilling machine, the drilling machine comprising a driving apparatus coupled to a drill string and a cutting head or reamer, the system comprising:

a remote unit comprising a transceiver;

a user interface provided on the remote unit, the user interface comprising a lockout switch, a status indicator, and a mode indicator, the remote unit transmitting via the transceiver a lockout signal in response to user actuation of the lockout switch; and

a controller provided at the drilling machine communicatively coupled to the driving apparatus, the controller preventing movement of the drill string in response to the received lockout signal and transmitting a verification signal to the remote unit, the mode indicator of the remote unit, in response to the received verification signal, communicating to the user one or more of a visual, tactile and/or audible indication of successful receipt of the lockout signal by the drilling machine and disablement of drill string movement, and the status indicator indicating a loss of communication connectivity between the remote unit and the drilling machine.

30. The system of claim 17, wherein the operating mode signal comprises one of a PUSH, PULLBACK or ROTATE mode signal, and the controller alters forward drill

string displacement in response to the PUSH mode signal, alters reverse drill string displacement in response to the PULLBACK mode signal or alters drill string rotation in response to the ROTATE mode signal.

31. The system of claim 30, wherein the controller alters drilling machine operation automatically or in response to user control inputs.

Rejected claims 21-23 of the subject application are presented as follows:

21. (original) A system for controlling a horizontal directional drilling (HDD) machine having a cutting tool coupled to a drill pipe, comprising:

an above-ground locator;

a user interface comprising a user input device; and

a controller, communicatively coupled to the user interface, configured to control the HDD machine to move the cutting tool along an underground path in accordance with a pre-established bore plan, the controller, during HDD machine operation, accessing one or more control programs each causing the HDD machine to execute a sequence of pre-defined HDD machine actions, the controller executing a particular control program of the one or more control programs to augment movement of the drill pipe or cutting tool.

22. (original) The system of claim 21, wherein the cutting tool comprises a boring tool.

23. (original) The system of claim 21, wherein the cutting tool comprises a reamer.

The Examiner appears to base the rejection of claims 21-23 on the grounds that these claims are broader in terms of components and functions relative to claim 31 of the '952 patent. Applicant respectfully asserts that the inventive subject matter of the rejected claims patentably differs from that of claim 31 of the '952 patent.

For example, claim 31, by virtue of its dependency, recites a remote unit and a user interface comprising a lockout switch, where the remote unit transmits a lockout signal in response to user actuation of the lockout switch. A controller at the drilling machine prevents movement of a drill string in response to the received lockout signal, and further transmits a verification signal to the remote unit. Claim 31 further recites a mode indicator of the remote unit that, in response to the received verification signal,

communicates to the user one or more of a visual, tactile and/or audible indication of successful receipt of the lockout signal by the drilling machine and disablement of drill string movement. A status indicator indicates a loss of communication connectivity between the remote unit and the drilling machine.

Rejected claims 21-23 fail to recite many of the elements of claim 31, including a lockout switch, lockout signal, disablement of drill string movement, user perceivable indication of successful receipt of the lockout signal by the drilling machine, and a status indicator, among other elements.

Rejected claims 21-23, among other elements, recite a user interface comprising a user input device and a controller communicatively coupled to the user interface. The controller is configured to control the HDD machine to move the cutting tool along an underground path in accordance with a pre-established bore plan. During HDD machine operation, the controller accesses one or more control programs each causing the HDD machine to execute a sequence of pre-defined HDD machine actions. The controller executes a particular control program of the one or more control programs to augment movement of the drill pipe or cutting tool.

Claim 31 of the '952 patent fails to recite many of the elements of claims 21-23, including a pre-established bore plan, accessing one or more control programs, sequences of pre-defined HDD machine actions, executing such control programs to cause the HDD machine to execute a sequence of pre-defined HDD machine actions, among other elements.

It is unclear to Applicant how the invention recited in claim 31 of the '952 patent can be considered not patentably distinct from the invention recited in rejected claims 21-23. Applicant respectfully requests the Examiner to consider the focus of the inventive subject matter recited in claim 31 of the '952 patent relative to that recited in claims 21-23, rather than only breadth of coverage. Although each of these sets of claims may recite a similar base structure (e.g., controller, user interface), it is very clear from a plain reading of the respective claims that other structures, specific configurations of such similar base structures, and other functionality render these claim sets patentably distinct.

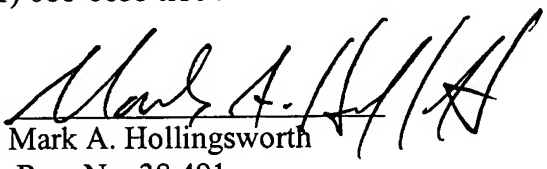
Applicant respectfully traverses the rejection of claims 21-23 for at least these reasons. Should the Examiner maintain this rejection, Applicant respectfully requests additional, particularized grounds supportive of the Examiner's position, as Applicant is unable to appreciate the Examiner's concerns in light of clear patentable differences between claims 21-23 and claim 31 of the '952 patent.

In view of the above, Applicant submits that claims 1-57 are in condition for allowance. Reconsideration and withdrawal of the rejections, along with a favorable response, are earnestly requested.

The Examiner is invited to contact Applicant's Representatives, at the below-listed telephone number, if there are any questions regarding the above new claims or if prosecution of this application may be assisted thereby.

Respectfully submitted,
Crawford Maunu PLLC
1270 Northland Drive, Suite 390
St. Paul, MN 55120
(651) 686-6633 x104

Date: November 24, 2004

By: 
Mark A. Hollingsworth
Reg. No. 38,491

MAH/ksw